

WHAT IS CLAIMED IS:

1. An ink jet recording element comprising a support having thereon in order:

(I) a base layer comprising at least about 50% by weight of inorganic particles; and

(II) an image-receiving layer comprising:

- (a) colloidal, inorganic oxide particles having a mean particle size of from about 10 to about 500 nm; and
- (b) water-insoluble, cationic, polymeric particles having a benzyldimethyl benzylammonium moiety.

2. The recording element of Claim 1 wherein said inorganic particles in said base layer have an anionic surface charge

3. The recording element of Claim 1 wherein said inorganic particles in said base layer have a mean particle size of from about 100 nm to about 5 μ m.

4. The recording element of Claim 1 wherein said base layer comprises at least about 70% by weight of inorganic particles.

5. The recording element of Claim 1 wherein said inorganic particles in said base layer comprise calcium carbonate, magnesium carbonate, kaolin, clay, talc, calcium sulfate, barium sulfate, titanium dioxide, zinc oxide, zinc hydroxide, zinc carbonate, aluminum silicate, calcium silicate, magnesium silicate, synthetic amorphous silica, fumed silica, colloidal silica, silica gel, aluminum gel, fumed alumina, colloidal alumina, pseudo-boehmite, or zeolite.

6. The recording element of Claim 1 wherein said base layer also contains a binder in an amount of from about 5 to about 20 weight %.

7. The recording element of Claim 1 wherein said colloidal, inorganic oxide particles are fumed alumina, fumed silica, silica or hydrous aluminum oxide.

8. The recording element of Claim 1 wherein said colloidal, inorganic oxide particles have a mean particle size of from about 50 to about 200 nm.

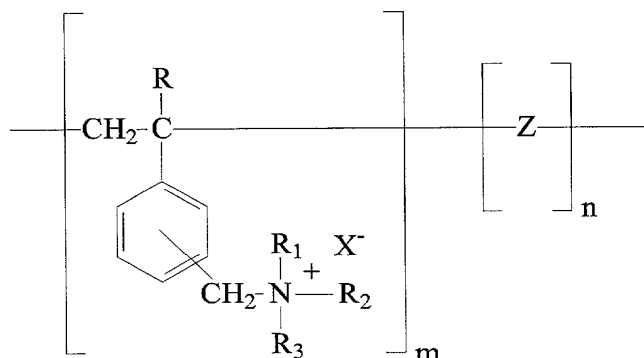
9. The recording element of Claim 1 wherein said image-receiving layer also contains a binder in an amount of from about 5 to about 20 weight %.

10. The recording element of Claim 9 wherein said binder is a hydrophilic polymer.

11. The recording element of Claim 9 wherein said binder is a core/shell latex.

12. The recording element of Claim 1 wherein said support is coated with said base layer and said image-receiving layer and is then calendered.

13. The recording element of Claim 1 wherein said water-insoluble, cationic, polymeric particles having a benzyldimethyl benzylammonium moiety have the formula:



wherein:

R represents H or an alkyl group of from 1 to about 4 carbon atoms;

R₁ and R₂ each independently represents an alkyl group of from 1 to about 20 carbon atoms;

R₃ represents a benzyl group;

Z represents at least one ethylenically unsaturated, nonionic monomer;

m represents a mole % of from about 5 to about 100;

n represents a mole % of from 0 to about 95; and

X represents an anion.

14. The recording element of Claim 13 wherein said m represents a mole % of from about 10 to about 90.

15. The recording element of Claim 1 wherein said water-insoluble, cationic, polymeric particles have a mean particle size of from about 5 to about 500 nm.

16. The recording element of Claim 1 wherein said water-insoluble, cationic, polymeric particles have a mean particle size of from about 10 to about 200 nm.

17. The recording element of Claim 1 wherein said water-insoluble, cationic, polymeric particles are employed in an amount of from about 0.2 to about 32 g/m².

18. The recording element of Claim 1 wherein said water-insoluble, cationic, polymeric particles are employed in an amount of from about 0.4 to about 16 g/m².

19. The recording element of Claim 1 wherein said water-insoluble, cationic, polymeric particles comprise poly(styrene-co-vinylbenzyl dimethylbenzylammonium chloride-co-divinylbenzene).

19. The recording element of Claim 1 wherein said water-insoluble, cationic, polymeric particles comprise poly(styrene-co-vinylbenzyl dimethylbenzylammonium chloride-co-divinylbenzene).